

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,876,944 B2
APPLICATION NO. : 10/777113
DATED : April 5, 2005
INVENTOR(S) : Donald R. McGaughey et al.

Page 1 of 3

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 2,

Line 66, one f the" should read -- one of the --.

Column 4,

Line 66, "DF 1118" should read -- CDF 118 --.

Column 7,

Line 3, "known that that the" should read -- known that the --.

Column 14,

Line 46, "product).'" should read -- product). --.

Column 19,

Lines 31-57, claims 38-42 should read as follows:

38. A system for estimating a motor speed comprising:

a correlation mechanism for determining a correlation between a current wave sensed at the motor and frequency pairs from a set of weighted frequency pairs representing the current wave;

a fitting mechanism for fitting components of a motor control signal to a corresponding number of first orthogonal pairs in a set of weighted orthogonal pairs, the orthogonal pairs being orthogonal to the frequency pairs;

a region determination mechanism for comparing a subharmonic from the current wave with a harmonics speed model to identify two regions in which to locate a corresponding harmonic, the subharmonic having a frequency less than a motor control signal;

a corresponding frequencies mechanism for identifying a harmonics pair of frequencies in the two regions having a separation from each other no greater than a smallest harmonic of the motor control signal, wherein one of the frequencies in the harmonics pair is the corresponding harmonic;

a speed estimation mechanism for comparing desired frequencies from the identified harmonics pairs with a harmonics speed model to determine an estimation of the speed;
and

a controller in communication with the correlation mechanism, the fitting mechanism, the mse reduction mechanism and the speed estimation mechanism for coordinating the process of estimating the motor speed.

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Column 19 (cont.)

39. The system according to claim 38 wherein the fitting mechanism comprises:

an orthogonal weights mechanism for determining the orthogonal weight for an orthogonal pair from the set of weighted orthogonal pairs based on the value of one of the frequency pairs; and

a frequency weights mechanism for determining the frequency weight for a frequency pair from the set of weighted frequency pairs based on the corresponding orthogonal weight.

40. The system according to claim 38 further comprising:

a CDF analysis mechanism for determining if a previous motor speed is classified as low and providing a supplement frequency component of the motor control signal to the fitting mechanism to be fit as a second pair of the orthogonal pairs if the previous motor speed is classified as low.

41. The system according to claim 38 further comprising:

a subharmonics mechanism for searching the current wave for subharmonics between 0Hz and the frequency of the motor control signal.

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Column 19 (cont.)

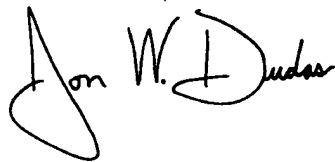
42. The system according to claim 38 further comprising:

a harmonics identification mechanism for locating harmonics in the regions.

This certificate supersedes the Certificate of Correction issued October 4, 2005.

Signed and Sealed this

First Day of April, 2008

A handwritten signature in black ink, appearing to read "Jon W. Dudas". The signature is stylized with a large, looping initial "J" and a distinct "D".

JON W. DUDAS
Director of the United States Patent and Trademark Office